

Amendments to the Specification

Please amend the specification as indicated.

Please amend paragraph 6 as follows:

Typically, reaction mass mechanisms are guided by bearings or flexures. Flexures are thin vertical plates, attached at a protrusion at each end of a reaction mass such that when a stage coupled to the reaction mass accelerates, the reaction mass moves in the opposite direction as the stage, in a manner supported and guided by the flexures. The movement of the reaction mass in the opposite direction helps to stabilize the lithography system during processing. The ends of the flexures that are not coupled to the reaction mass are coupled to another entity, such as a baseframe. In this way, both ends of a flexure are constrained so that the flexure cannot rotate upon movement of the reaction mass. Flexures usually include one or more groove-like channels at each end for ~~flexiblity~~ flexibility in supporting the reaction mass. The channels can be angular, rounded, or of any shape that will allow flexibility in the flexure.

Please delete paragraph 38.

Please insert the following paragraph prior to paragraph 40:

Referring again to FIG. 3, for achieving a leakproof seal between bellows 365 and reaction mass 310, it may be desirable to use a reaction mass 310 made out of a metal instead of the more-common porous granite. For example, reaction mass 310 can be made of stainless steel. Alternatively, metal plates 371 can be coupled to a granite reaction mass, such

that the bearings and bellows interface with the metal plates instead of the granite. For example, bearings can slide along metal plates 371. Additionally, bellows 365 can be directly welded to metal plates 371 to produce a leakproof seal.

Please amend paragraph 40 as follows:

~~Referring again to FIG. 3, bellows~~ Bellows 365 are flexible enough to move with the reaction mass, yet form a seal to prevent contaminants related to baseframe bearings 360 from contaminating controlled environment 355. In this way, bellows 365 maintain a pressure separation between the volume of bellows 365 and the volume of controlled environment 355. It will be appreciated that for some embodiments, it is not necessary for enclosure 350 to enclose bellows 365 completely as is shown in FIG. 3. Alternatively, the volume of bellows 365 can be open to the atmosphere, while still maintaining a seal separating the volume of bellows 365 from controlled environment 355.

Please amend paragraph 42 as follows:

As described earlier herein, upon movement in one direction of a stage in a lithography system, the reaction mass(es) coupled to the stage will move in the opposite direction to prevent the transfer of the reaction force to the rest of the lithography system. The mass of the stage and the reaction mass(es) determine how far the reaction mass will need to move for this reaction force compensation. Applying the principle of conservation of momentum to an example, if the total mass of the reaction mass is X times greater than the mass of the stage, then the reaction mass will move, in the opposite direction as the stage, a total of $1/X$ the distance of the ~~stage~~ stage. The coil portion of the linear motor supplies a

force equal to the stage mass times the acceleration of the stage. The magnet track portion of the linear motor experiences an equal and opposite force, which it transfers to the reaction mass, accelerating it at $1/X$ the rate of the stage. The vacuum chamber experiences a horizontal force equal to the combined lateral stiffness of the bellows times the displacement of the reaction mass. If the vacuum chamber is uncoupled from the baseframe, the baseframe experiences no reaction force. An additional advantage of this setup is that the center of gravity of the entire structure of the lithography system remains in place, thus the baseframe experiences no tilting moments due to shifts in the center of gravity of the components that it supports.